

REMARKS

Claims 1-20 are pending in this application. Claims 1, 4, 13, and 20 are independent claims. Claims 1, 4, 13 and 20 are amended. Support for the amendments can be found in at least paragraphs [0028], [0038] and [0050] of the Applicants' Specification. Reconsideration and allowance of the present application are respectfully requested.

Claim Rejections

Rejections under 35 U.S.C. §102 – Jin et al.

Claims 1, 3-5, and 20 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 7,116,710 (“Jin et al.”). This rejection is respectfully traversed.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

The Applicants' respectfully submit that Jin fails to teach each of the elements in claim 1 as amended. Claim 1 as amended recites “the encoding of the bits including using a check node layer, the check node layer having a non-zero fraction of check nodes with a degree of 1”. On page 2 of the September 19, 2007 Office Action, the Examiner states that column 4, lines 13-15 of Jin teach check nodes having a degree of $(i+2)$ and that this is equivalent to having check nodes with a degree of d_c . However, $(i+2)$ is not equivalent to the value 1. Jin does not teach check nodes having a degree of 1. Thus, Jin does not teach check node layers where a non-zero fraction of the check nodes have a degree of 1 as is required by claim 1. Accordingly, Jin does not teach each of the elements in claim 1 as is required to support a rejection under §102.

Furthermore, amended claims 4 and 20 contain limitations similar to those in amended claim 1. Accordingly, at least in view of their similarity to claim 1, Jin fails to teach each of the elements in either of claims 4 and 20 as is required to support a rejection under §102.

Additionally, claim 3 depends from claim 1 and claim 5 depends from claim 4. Accordingly, at least in view of their dependency from claims 1 and 4, Jin fails to teach each of the elements in either of claims 3 and 5.

Therefore, Applicants respectfully request that this rejection of claims 1, 3-5, and 20 under 35 U.S.C. §102 be withdrawn.

Rejections Under 35 U.S.C. § 103 – Jin et al. in view of Walton et al.

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Jin et al. as applied to claim 1 above and further in view of U.S. Patent Publication No. 2004/0081073 (“Walton et al.”). This rejection is respectfully traversed.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The deficiencies of Jin have been discussed above and are applicable here as well because claim 2 depends from claim 1. Walton fails to remedy these deficiencies because Walton does not teach a check node layer, “the check node layer having a non-zero fraction of

check nodes with a degree of 1” as is required by amended claim 1. In fact, Walton does not appear to teach check nodes or check node layers at all. Accordingly, neither Jin nor Walton, alone or in combination, teach each of the limitations in amended claim 1. Thus, the Examiner cannot establish a *prima facie* case of obviousness with respect to amended claim 1 as is required to support a rejection under §103(a). Consequently, at least in view of its dependence from claim 1, the Examiner cannot establish a *prima facie* case of obviousness with respect to claim 2.

Therefore, Applicants respectfully request that this rejection of claim 2 under 35 U.S.C. §103 be withdrawn.

Rejections Under 35 U.S.C. § 103 – Jin et al. in view of Woerz et al.

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 7,116,710 (“Jin et al.”) as applied to claim 5, and further in view of *Iterative Decoding for Multilevel Codes Using Reliability Information* (“Woerz et al.”). This rejection is respectfully traversed.

The deficiencies of Jin have been discussed above and are applicable here as well because claim 6 depends from claim 4. Woerz fails to remedy these deficiencies because Woerz does not teach a check node layer, “the check node layer having a non-zero fraction of check nodes with a degree of 1” as is required by amended claim 4. In fact, Woerz does not appear to teach check nodes or check node layers at all. Accordingly, neither Jin nor Woerz, alone or in combination, teach each of the limitations in amended claim 4. Thus, the Examiner cannot establish a *prima facie* case of obviousness with respect to amended claim 4 as is required to support a rejection under §103(a). Consequently, at least in view of its dependence from claim 4, the Examiner cannot establish a *prima facie* case of obviousness with respect to claim 6.

Therefore, Applicants respectfully request that this rejection of claim 6 under 35 U.S.C. §103 be withdrawn.

Rejections Under 35 U.S.C. § 103 – Jin et al. in view of Woerz et al and further in view of Ashikhmin et al.

Claim 12 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,985,536 (“Jin et al.”) in view of *Iterative Decoding for Multilevel Codes Using Reliability Information* (“Woerz et al.”) as applied to claim 6, and further in view of U.S. Patent Publication No. 2004/0002309 (“Ashikhmin et al.”). This rejection is respectfully traversed.

As a preliminary matter, the Applicants respectfully submit that §103(c) precludes the use of Ashikhmin as a reference in a §103(a) rejection. Ashikhmin was first published on January 1st, 2004 more than a month *after* November 26, 2003 when the present application was filed. Accordingly, Ashikhmin can only qualify as a reference under §102(e). Thus, §103(c) applies to Ashikhmin. Further, in accordance with §706.02(l)(2)(II) of the MPEP, the Applicants respectfully submit that both the subject matter of Patent Publication No. 2004/0002309 (“Ashikhmin et al.”) and the present application were, at the time the invention was made, owned by, or subject to an obligation of assignment to Lucent Technologies Inc. With respect to the current application, the Applicants direct the Examiner’s attention to Reel/Frame 015188/0848. With respect to Ashikhmin, the Applicants direct the Examiner’s attention to Reel/Frame 013201/0115. Accordingly, §103(c) precludes the use of Ashikhmin as a reference in a §103(a) rejection.

Furthermore, the deficiencies of Jin and Woerz have been discussed above and are applicable here because claim 12 depends from claim 4. For the reasons stated above, neither Jin nor Woerz, alone or in combination, teach each of the limitations in amended claim 4. Thus, the

Examiner cannot establish a *prima facie* case of obviousness with respect to amended claim 4 as is required to support a rejection under §103(a). Consequently, at least in view of its dependence from claim 4, the Examiner cannot establish a *prima facie* case of obviousness with respect to claim 12.

Therefore, Applicants respectfully request that this rejection of claim 12 under 35 U.S.C. §103 be withdrawn.

Rejections Under 35 U.S.C. § 103 – Jin et al. in view of Ashikhmin et al.

Claims 13 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 7,116,710 (“Jin et al.”) in view of U.S. Patent Publication No. 2004/0002309 (“Ashikhmin et al.”). This rejection is respectfully traversed.

For the reasons stated above, Ashikhmin cannot be used as a reference in a §103(a) rejection. Furthermore, for the reasons stated above, Jin does not teach each of the limitations in amended claim 1. Claim 13 contains limitations similar to those in claim 1. Accordingly, at least in view of its similarity to claim 1, Jin fails to teach each of the limitations in claim 13. Consequently, the Examiner cannot establish a *prima facie* case of obviousness with respect to claim 13 as is required to support a rejection under §103(a).

Therefore, Applicants respectfully request that this rejection of claims 13 and 15 under 35 U.S.C. §103 be withdrawn.

Allowable Subject Matter

Applicants note with appreciation the Examiner’s indication that claims 7-11, 14, and 16-19 contain allowable subject matter.

CONCLUSION

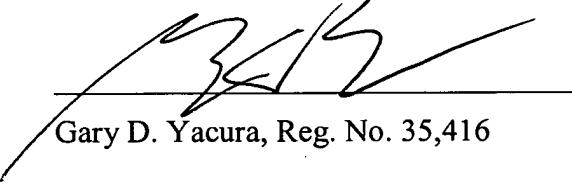
In view of the above remarks and amendments, Applicants respectfully submit that each of the rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gary D. Yacura at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,
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By


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